Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the Claims:

1. (currently amended) A method of guiding a vehicle, the method comprising:

establishing elevation data and corresponding location data for a work area;

determining location data, including a particular location of a vehicle, within the work area;

estimating at least one of roll data and pitch data corresponding to the particular location,

guiding the vehicle based upon at least one of the estimated roll data, ~~and~~ the pitch data, and an aspect such that the vehicle follows a target path, the aspect representing a direction of maximum slope corresponding to the particular location.

2. (original) The method according to claim 1 wherein the roll data comprises a roll angle and wherein the pitch data comprises a pitch angle.

3. (original) The method according to claim 1 wherein the work area is divided into a group of cells, and wherein each cell is associated with a corresponding elevation datum and a respective location data.

4. (original) The method according to claim 1 further comprising establishing respective slope data and aspect data associated with the location data, the slope data indicating a change in elevation of terrain in the work area and the aspect data indicating the direction of slope.

5. (original) The method according to claim 1 wherein the target path comprises a substantially linear path segment.

6. (original) The method according to claim 1 wherein the guidance comprises

generating a steering compensation data to compensate for changes in the roll data and pitch data between an uncorrected vehicular path and the target path.

7. (original) The method according to claim 1 wherein the estimating comprises estimating the pitch data based on one or more of the following: location data, elevation data, a current position of the vehicle, an expected position of the vehicle, vehicle speed, vehicle heading, vehicular velocity, and a path plan.

8. (original) The method according to claim 1 wherein the estimating comprises estimating the pitch data consistent with the following equation:

θ (Pitch angle) $= H_x = \sin H\sqrt{1-\cos^2}\psi$, where ψ is the aspect, H is the slope, H_x is the longitudinal slope, and H_y is the lateral slope.

7. (original) The method according to claim 1 wherein the estimating comprises estimating the roll data based on one of more of the following: location data, elevation data, a current position of the vehicle, an expected position of the vehicle, vehicle speed, vehicle heading, vehicular velocity, and a path plan.

8. (original) The method according to claim 1 wherein the estimating comprises estimating the roll data consistent with the following equation:

Φ (Roll angle) $= H_y = \sin H\sqrt{1-\sin^2}\psi$, where ψ is the aspect, H is the slope, H_x is the longitudinal slope, and H_y is the lateral slope.

9. (currently amended) A system of guiding a vehicle, the system comprising:

a data storage device for storing elevation data and corresponding location data for a work area;

a location-determining receiver for determining a particular location of a vehicle within the work area;

a data processor comprising a roll estimator for estimating a roll data and a pitch estimator for estimating pitch data corresponding to the particular location, and

a steering controller for guiding the vehicle utilizing the estimated roll data, ~~and~~ the pitch data, and an aspect such that the vehicle follows a desired path, the

aspect representing a direction of generally maximum slope corresponding to the particular location.

10. (original) The system according to claim 9 wherein the roll data comprises a roll angle and wherein the pitch data comprises a pitch angle.

11. (withdrawn) The system according to claim 9 wherein the work area is divided into a group of cells, and wherein each cell is associated with a corresponding elevation and a respective location.

12. (withdrawn) The system according to claim 9 wherein the data storage device further stores respective slope data and aspect data associated with the location data, the slope data indicating a change in the elevation and the aspect data indicating the direction of the slope.

13. (withdrawn) The system according to claim 9 wherein the desired path comprises a substantially linear path segment.

14. (withdrawn) The system according to claim 9 wherein the data processor generates a steering compensation signal to compensate for changes in the roll data and pitch data between a first location and a second location within the work area to conform to the desired path.

15. (withdrawn) The system according to claim 9 wherein the pitch estimator estimates the pitch data based on one or more of the following: location data, elevation data, a current position of the vehicle, an expected position of the vehicle, vehicle speed, vehicle heading, vehicular velocity, and a path plan.

16. (withdrawn) The system according to claim 9 wherein the pitch estimator estimates the pitch data consistent with the following equation:

θ (Pitch angle) $= H_x = \sin H\sqrt{1-\cos^2}\psi$, where ψ is the aspect, H is the slope, H_x is the longitudinal slope, and H_y is the lateral slope.

17. (withdrawn) The system according to claim 9 wherein the roll estimator estimates the roll data based on one of more of the following: location data, elevation data, a current position of the vehicle, an expected position of the vehicle, vehicle speed, vehicle heading, vehicular velocity, and a path plan.

18. (withdrawn) The system according to claim 9 wherein the roll estimator estimates the roll data consistent with the following equation:

Φ (Roll angle) $= H_y \doteq \sin H\sqrt{1-\sin^2}\psi$, where ψ is the aspect, H is the slope, H_x is the longitudinal slope, and H_y is the lateral slope.